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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,739	06/19/2001	Karl Kammerlander	112740-167	8564

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EXAMINER

D'AGOSTA, STEPHEN M

ART UNIT PAPER NUMBER

2617

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/762,739

Applicant(s)

KAMMERLANDER ET AL.

Examiner

Stephen M. D'Agosta

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments, see pre-appeal, filed 5-9-2006, with respect to the rejection(s) of claim(s) 7-12 under USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

-- As stated previously, the primary examiner believes a more favorable outcome may occur if the applicant were to amend independent claim 7 in any of the following combinations, since he believes these teachings would be novel over the prior art of record:

- a. Amend Claim 7 with claim 8 and claim 12
- b. Amend Claim 7 with claim 9 and claim 12
- c. Amend Claim 7 with claim 10 and claim 12
- d. Amend Claim 7 with claim 11 and claim 12

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 7-8 and 12** rejected under 35 U.S.C. 103(a) as being unpatentable over Sheperd EP-0399612, and further in view of Gilbert et al. US 6,016,311.

As per **claim 7**, Sheperd teaches A method for changing radio channels in a mobile radio communication system, the method comprising the steps of:

providing an existing duplex radio link having both a first physical radio channel for transmitting communication information via an air interface, and a second physical

radio channel for transmitting communication information in an opposite direction to the first physical radio channel via the air interface (Abstract teaches one duplex voice channel composed of two unidirectional channels in opposite directions whereby each use two time slots for each unidirectional channel), and

changing, upon a disturbance of the duplex radio link, only one of the disturbed first or second physical radio channel, wherein the undisturbed first or second physical radio channel is retained (Sheperd teaches that the two channels may be asymmetric whereby more than one timeslot can be used (in each direction) to support the data transmission, eg. one unidirectional channel can be composed of two timeslots. He further states that these extra timeslots can be “changed” to be used in either direction to support the data transmission as needed C3, L54 to C4, L21. The Abstract states that another reason to change a channel is due to retransmission or corruption, which would be due to interference);

**but is silent on** changing the first channel and retaining the second channel.

The primary examiner notes that the applicant’s term “changing” is a broad term and does not fully define technical boundaries as to how the examiner **must** specifically interpret this word. Case in point, Sheperd teaches (see above) two unidirectional channels each having two timeslots (eg. a total of 4 timeslots) and that one of the two timeslots can be allocated to the other unidirectional channel (eg. if each unidirectional channel starts with 2 timeslots, interference causing retransmissions/corruption can lead to a reallocation whereby one unidirection channel now has 3 timeslots and the other unidirection channel has 1 timeslot). The examiner can therefore interpret that the one unidirectional channel (which went from 2 to 3 timeslots) has been “changed” while the other unidirectional timeslot is still in service, eg. retained).

Gilbert teaches adaptive Time Division Duplexing whereby the uplink and downlink “channels” (or bandwidth) can be asymmetric and change dynamically (see abstract, “...timeslots are flexibly and dynamically allocated for uplink and downlink...”). Furthermore, while one skilled realizes that channel interference/corruption would be a reason for Gilbert to effectively “change” channel OR drop the channel bandwidths, the examiner relies on Sheperd’s specific teachings for this concept. Since Gilbert teaches

dynamically changing the uplink or downlink (or both) see figures 3a or 3b, these changes can be viewed as one channel is changed (eg. more or less timeslots are added) while the other is retained, eg. the second channel is still in place supporting data transmission).

It is again the examiner's position that the applicant can either amend per his recommendations above and/or consider more specifically defining this "changing/retaining". For example, the applicant can better define their concept of the "original channels" and exactly what "changing" means (eg. is it that a frequency has changed for one and not the other, is it that a timeslot has changed and not changed for the other, etc.). This would restrict the examiner's ability to interpret the claims.

It would have been obvious to one skilled in the art at the time of the invention to modify the Sherperd, such that a first channel is changed while the second channel is retained, to provide means for changing only the disrupted/interfered channel to reduce the complexity of the reallocation process.

As per **claim 8**, the combination teaches claim 7, **but is silent on** wherein the mobile radio communication system exhibits a TDMA (Time Division Multiple Access) component in which only a time slot of the disturbed one of the first physical radio channel and the second physical radio channel is changed.

Gilbert teaches a TDMA system whereby timeslots are dynamically changed (see abstract and figures 3a, 3b).

It would have been obvious to one skilled in the art at the time of the invention to modify the combination, such that TDMA slots are changed, to provide support for well known multiplexing methods currently used in commercial industry today.

As per **claim 12**, the combination teaches claim 7, wherein each available radio channel of the mobile radio communication system can be used both as a first physical radio channel and as a second (Sheperd teaches using any/all of the available timeslots to send data, eg. as needed).

**Claims 9-10** rejected under 35 U.S.C. 103(a) as being unpatentable over Sheperd/Gilbert and further in view of Hamada EP-0895437.

As per **claim 9**, the combination teaches Claim 7, **but is silent on** wherein the mobile radio communication system exhibits an FDMA (Frequency Division Multiple Access) component in which only a carrier frequency of the disturbed one of the first physical radio channel and the second physical radio channel is changed.

Hamada teaches claim an FDMA multiple access component in which both a time slot and a carrier frequency of the disturbed one of the first and second physical radio channel is changed (figure 8 teaches changing carrier, #804, #806).

It would have been obvious to one skilled in the art at the time of the invention to modify Sheperd, such that FDMA carrier frequencies are changed, to provide support for well known multiplexing methods currently used in commercial industry today.

As per **claim 10**, the combination teaches claim 7, **but is silent on** wherein the radio communication system exhibits both a TDMA multiple access component and an FDMA multiple access component in which both a time slot and a carrier frequency of the disturbed one of the first physical radio channel and the second physical radio channel is changed.

Gilbert teaches a TDMA system whereby timeslots are dynamically changed (see abstract and figures 3a, 3b).

Hamada teaches claim an FDMA multiple access component in which both a time slot and a carrier frequency of the disturbed one of the first and second physical radio channel is changed (figure 8 teaches changing carrier, #804, #806).

It would have been obvious to one skilled in the art at the time of the invention to modify the combination, such that TDMA slots are changed, to provide support for well known multiplexing methods currently used in commercial industry today.

**Claim 11** rejected under 35 U.S.C. 103(a) as being unpatentable over Sheperd/Gilbert and further in view of Gitlin et al. US 6,018,528.

As per **claim 11**, the combination teaches claim 7 but is silent on wherein the radio system exhibits a CDMA multiple access component in which the transmission code of the disturbed one of the first and second physical radio channel is changed

While CDMA is known in the art and would key off "transmission code", the examiner puts forth Gitlin who teaches optimization of spectral efficiency (eg. can allocate more/less bandwidth as needed) that supports time, frequency and CDMA systems (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify the combination, such that CDMA is supported, to provide means for the invention to interoperate on highly utilized nationwide/worldwide cellular systems today.

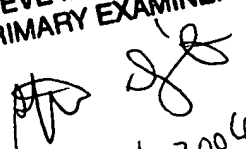
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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6-14-2006